Water Science and Technology Board

Roles of The National Academies

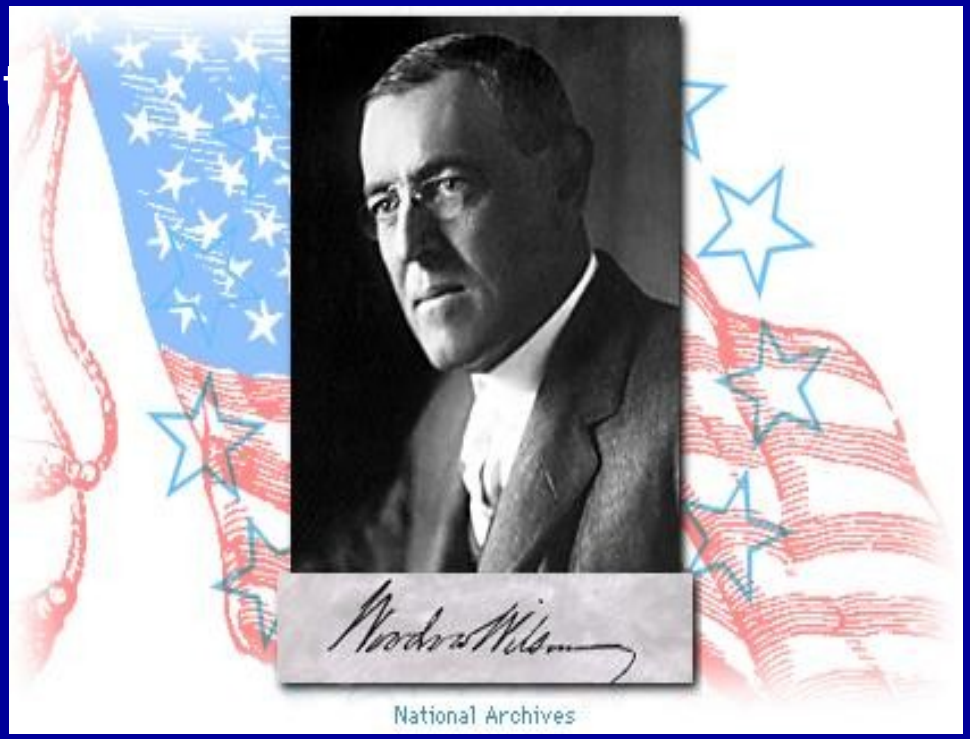
- Promote and advance scientific and technical research and knowledge

- Advise government agencies on:

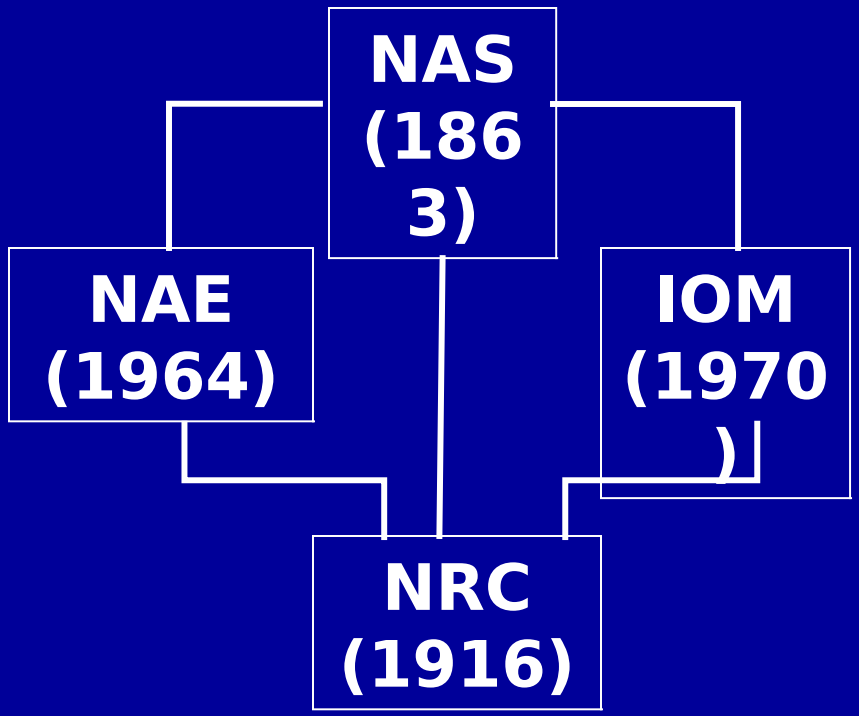
  - policies for science-based organizations
  - use of science in policymaking

National Research Council (NRC)
is the operating arm of The National Academies

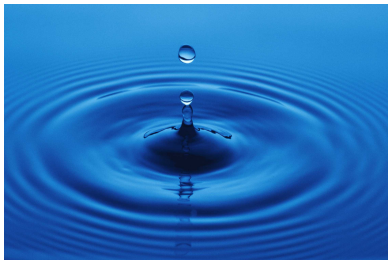
NRC created in 1916 in response t



The National Academies



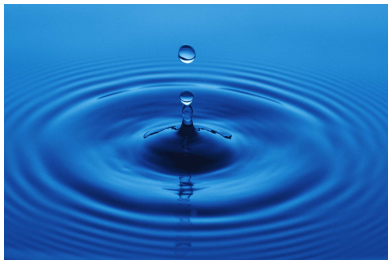
WSTB Mission



The Board conducts studies related to water resources under the aegis of the NAS and the NAE.

The Board's objective is to improve the scientific and technological bases for resolving questions and issues related to efficient water resources management.

WSTB Roster



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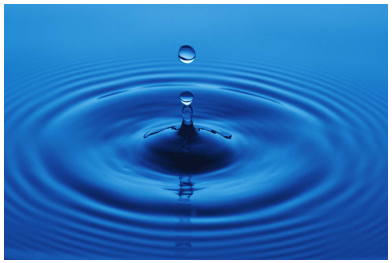
WSTB Reports



Science and the Greater Everglades Ecosystem Restoration (2003)

The Missouri River Ecosystem: Exploring the Prospects for Recovery (2002)

Riparian Areas: Functions and Strategies for Management (2002)

Compensating Wetland Losses Under the Clean Water Act (2002)

Privatization of Water Services in the United States (2002)

Inland Navigation System Planning: The Upper Mississippi River-Illinois Waterway (2001)

Aquifer Storage and Recovery in the Comprehensive Everglades Restoration Plan (2001)

Investigating Groundwater Systems on Regional and National Scales (2000)

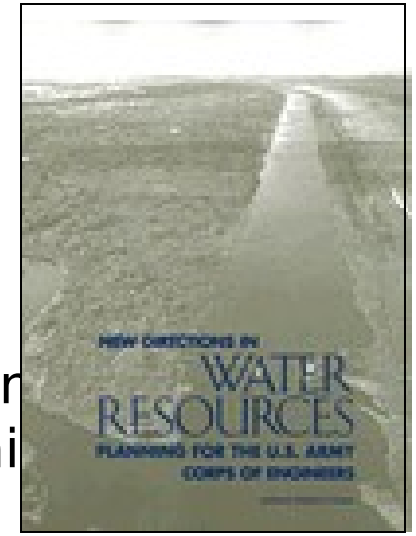
Risk Analysis and Uncertainty for Flood Damage Reduction Studies (2000)

Natural Attenuation for Groundwater Remediation (2000)

Watershed Management for Potable Water Supply: Assessing the New York City Strategy (2000)

Downstream: Adaptive Management of Glen Canyon and the Colorado River Ecosystem (1999)

New Directions in Water Resources Planning for the U.S. Army Corps of Engineers (1999)



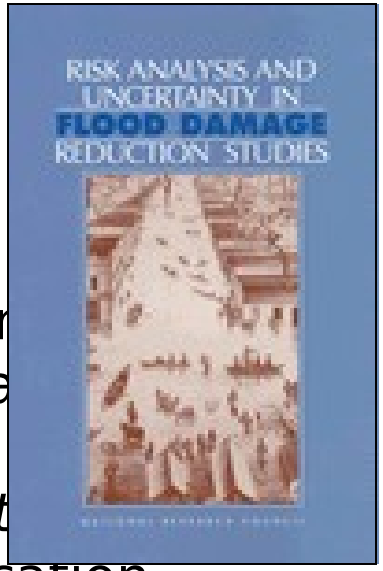
- Shortening the Corps' planning procedures will n
necessarily result in better water resources planni

- The duration and cost of the Corps' planning process do not take significantly longer than the planning of similar private sector water projects.

- The Corps will be challenged in resolving tensions between
serving as a steward of the nation's waters, and responding to
interests of local sponsors.

- P&G should be updated. Executive-level body should be created to coordinate and promote interagency collaboration.

Risk Analysis and Uncertainty in Flood Damage Reduction Studies (2000)



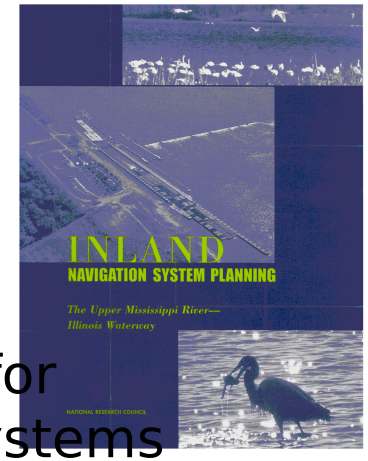
- Risk-based techniques in flood risk managemer
a significant advance beyond levee freeboard sta

- Corps should use *annual exceedance probabilit*
measure of engineering risk and for levee certification.

- Criterion for levee certification should be the median level historically provided. A small sample of Corps flood damage reduction projects suggests that the median historical annual exceedance probability is ~1/230.

- Corps should conduct studies comparing forecasts of geotechnical levee failure probabilities against actual levee failures during floods.

Inland Navigation System Planning: The Upper Mississippi River-Illinois Waterway (2001)



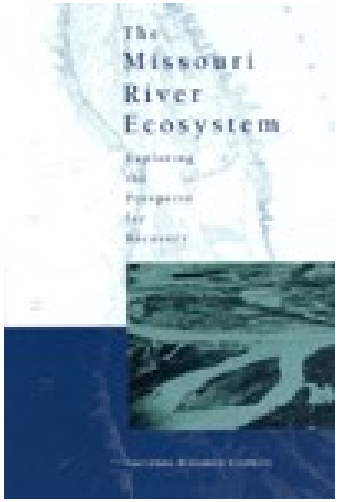
- The Corps should explore nonstructural options for managing towboat traffic—including scheduling systems—before considering extending locks on the UMR-IWW system.

- The Corps should seek solutions to waterway congestion that will prove beneficial over a range of future waterway traffic scenarios.

- Economic analyses should be better integrated with environmental aspects of the feasibility study to offer a more comprehensive assessment of the effects of proposed options.

- Cumulative effects of the current navigation system should be more carefully evaluated.

The Missouri River Ecosystem: Exploring the Prospects for Recovery (2002)



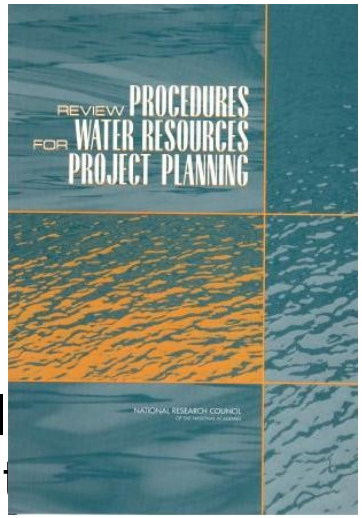
- Degradation of the river-floodplain ecosystem will continue unless natural flows and processes are significantly restored.

- Further revisions to the Master Manual should be halted until the changes reflect a science-based collaborative approach to Missouri River management.

- Congress should pass a Missouri River Protection and Recovery Act to keep river managers focused on improving the ecosystem.

- Congress should authorize the Corps to set different water-release schedules for different segments of the river.

Review Procedures for Water Resources Project Planning (2002)



- The Corps' more controversial, expensive, compl studies should be reviewed by a group independent of the Corps.

- A body should be established to help coordinate the review process for Corps planning studies. This administrative group for peer review should be housed in either the office of the Chief of Engineers or the ASA(CW).

- The Chief of Engineers should respond in writing to a review's key points, and explain why any recommendations in the review are not being implemented.

- A review panel should be free to comment on all issues it deems relevant, but the panel should not be asked to provide a final recommendation on whether a study should/should not be

NAS Section 216 Studies

Three panel studies

1) Project planning and methods

Review Corps' evaluation and formulation process and techniques, especially the P&G and Corps Planning Guidance Notebook.

2) Adaptive management

Review Corps efforts in implementing AM concepts, identify barriers, recommend means for useful applications.

3) River basin/coastal system planning

Review and provide advice regarding Corps' roles in managing infrastructure in river basin and coastal systems.

NAS Section 216 Studies

Coordinating Committee

- Track progress of the panels, ensure consistency between them.

- Produce its own report, synthesizing panel findings and identifying overarching themes related to the Corps' future roles, as well as relevant national water management issues.